Towards an historically relevant economics of the firm

Michael Dietrich, Jackie Krafft

Chapter 4

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1. Introduction

The basic sub-text or conjecture of this paper is that an adequate economics of the firm should be historically relevant. The terms "adequate" and "relevant" imply, in the current context, that theoretical frameworks allow explanation of historical developments rather than a rationalisation of these developments. Two possible implications follow from this conjecture. First, given the complexity of historical reality a single theoretical approach to the firm may be inadequate as a general framework to understand actual events. It follows, therefore, that a historically relevant economics of the firm may imply theoretical pluralism. The possible nature of this pluralism is explored in this paper. Secondly, and following on from the first point, if the importance of theoretical pluralism is accepted, different frameworks or approaches to the firm may be relevant in different historical circumstances. Among other things, pluralism might therefore imply a requirement for empirically driven theory. In our context empirically driven suggests that historical reality is an important motivator for the economics of the firm rather than being something that is interpreted as an end product.

To develop an economics of the firm consistent with these principles, it would seem to be necessary to echo the approach of Coase. He emphasised (1937, 386) that we require 'a definition of a firm … which is … realistic in that it corresponds to what is meant by the firm in the real world'. In reality the firm is obviously a technical unit i.e. it is a unit that transforms factor inputs into outputs. Following Machlup (1967), this involves how production and cost functions interact with demand on the market. But equally the firm is an institutional unit involving questions of basic definition, identity, internal structure and external boundaries (Hodgson, 2002). It follows that the firm in the "real world", to echo Coase once again, is both technical and institutional.

If this basic duality in the nature of the firm is accepted a fundamental analytical requirement is that technical and institutional theoretical aspects to the firm are not built on inconsistent principles. This consistency is required not only for theoretical-logical reasons, but also so that we can switch between technical and institutional views on the firms without creating conceptual problems. An inability to switch between definitions would introduce

particular problems in the current context. It would undermine an ability to undertake an historical investigation of, for instance, how the boundaries of the firm have changed in the context of the interaction between cost structures and market pressures.

But recognising this duality in the nature of the firm introduces a central complexity at the heart of this paper. There is no single view of the firm as an institutional unit with the implication that there is no single mapping between institutional and technical definitions. To simplify matters it is suggested here that the firm as an institutional unit exists in two guises: the firm as an economiser and the firm as a strategiser (for want of a better term), or equivalently the firm as a follower and the firm as a leader. In terms of the institutional firm as an economiser or follower, the core theoretical focus is on efficient motivation, as exemplified in the transaction cost work of Williamson. The institutional firm as a strategiser or leader emphasises the long-run focus of the firm, as exemplified by the neo-Austrian work of Langlois. Recognising the potential relevance of both these views suggests an inevitable complexity in the conceptualisation of the firm.

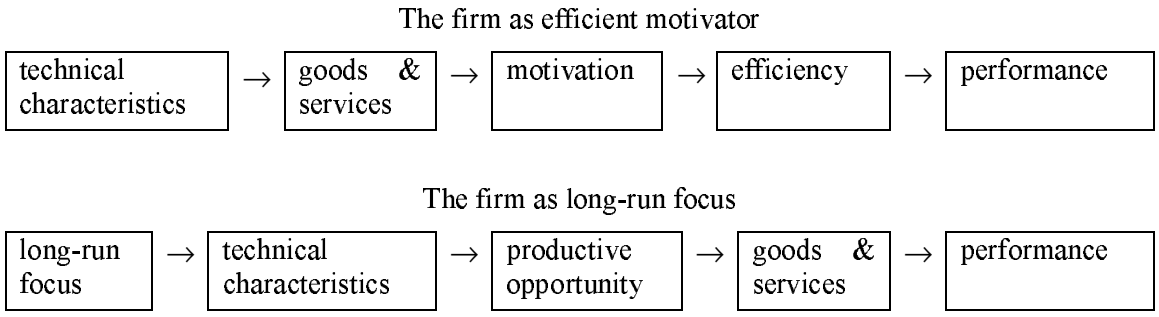
The rest of the discussion is organised as follows. In the next section the nature of this integrated view of the firm is developed. Following this, possible historical implications for the perspective on the firm suggested here are developed. This leads into a more explicit historical analysis based on the work of Chandler. In brief it is argued that different interpretations of Chandler's work can be viewed as specific examples of the conceptual framework developed in this paper.

2. An integrated perspective on the firm

This section of the discussion will develop in more detail the possible characteristics of the firm as both a technical and institutional entity as summarised above. To reiterate the earlier summary: the economics of the firm can be understood in two distinct contexts: technical and institutional. The technical context involves the production of goods and services in particular market settings. Two alternative institutional views on the firm appear to exist in economics: the firm as an efficient motivator and the firm as a long-run strategic unit in which emphasis is placed on generating strategic focus. Using Nooteboom (2004) we can understand that these two firm types are not merely theoretical devices but they also carry empirical content because of different cognitive requirements. Homogeneity of cognition within a firm is a necessary characteristic of efficient production. Variety and novelty of cognition is relevant

when innovation is strategically crucial. But this necessary variety implies that generating focus is a key organisational/managerial task with attendant costs.

The particular traditions that might be placed under these two headings of efficient motivator and long-run focus will be explored shortly. Before doing this we emphasise the point made above that the insights gained from these two institutional approaches are driven by the conceptual linkages created between institutional and technical factors. In schematic terms the two institutional approaches can be summarised as follows:



A number of particular approaches can be highlighted as examples of these firm types. Perhaps the most obvious example of the firm as efficient motivator is Williamson's (1975, 1985) transaction cost economics. Here, basic technical characteristics, and in particular asset specificity, along with bounded rationality and opportunism, produce motivation problems. The problems are managed using the most efficient, i.e. transaction cost minimising, institutions. This approach is explicitly ex-post in its logic i.e. the firm as an institution emerges following motivation problems. But the same abstract reasoning is evident with the ex-ante logic of agency theory in which optimal contracts are developed to manage motivation issues given information asymmetries (for example Hart's (1995) financial theory of the firm). Finally, the property rights approach of Alchian and Demsetz (1972) illustrates the same abstract logic in which team production produces motivation problems and a requirement for hierarchical management. Presenting the "efficient motivator" approaches in this way reveals that they all have a common methodological root grounded in a comparative static logic. The firm as an institution emerges in response to exogenous technical characteristics. This is transparent in, for example, new institutional approaches to accounting (see Dietrich 2001).

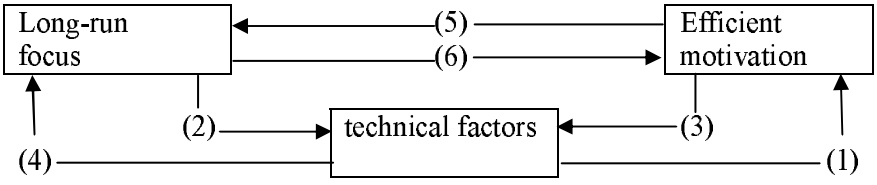
The following approaches can be highlighted under the general heading of the "firm as long-run focus". Perhaps the most interesting of these long-run approaches (at least in the

opinion of the authors of this paper) is the neo-Austrian approach of Langlois and Robertson (1995). Here a distinction is drawn between long-run and short-run transaction costs. Short-run transaction costs are those that exist in traditional (Williamsonian) theory. Long-run transaction costs are incurred with the management of strategic reorientation. The approach is neo-Austrian because ignorance and tacit knowledge produce profit opportunities for particular firms. But the exploitation of these opportunities is not costless, as appears to be the case in traditional Austrian economics (for example Hayek, 1945), but rather involve investment in managerial and complementary assets. These long-run transaction costs would not exist in a world in which long-run, firm specific, profit opportunities did not exist.

Consistent with the neo-Austrian approach is the competence approach to the firm (for example, Foss and Loasby 1998). This builds on the earlier work of Penrose (1959), Richardson (1972) and Nelson and Winter (1982). The idea of managed long-run focus is explicit in the work of Penrose; the term "productive opportunity" in the flow diagram just presented is taken from her work. In the work of Richardson and the evolutionary approach of Nelson and Winter long-run focus still exists but is more emergent (to use Mintzberg's (1990) term) rather than explicitly planned. But whether firm specific opportunities are emergent or planned is somewhat irrelevant for the abstract logic that firm performance is not explained as a comparative static response to exogenous technical characteristics. Instead, the technical characteristics of the firm (involving cost and market structures) are endogenous to the long-run focus of firms.

Presenting the institutional approach to the firm in the manner suggested here, i.e. as essentially two general schools of thought, reveals that the linkages are to some extent partial or incomplete. To develop an integrated economics of the firm a more fully connected set of linkages can be recognised. In schematic terms this fully connected model can be presented as follows:

An inter-connected model of the firm



Link (1) defines conventional new institutional economics, as considered above. Link (2) defines neo-Austrian and related approaches to the firm, as also just considered. These first

two approaches constitute what might be considered the recognised literature on the economics of the firm. For this reason they are perhaps less interesting than the 'alternative' frameworks defined by links (3)-(6).

The nature of link (3) can be explained in the following way. The causation operates from efficient motivation to the technical characteristics of the firm i.e. the reverse of traditional new institutional economics. For example, economising on transaction costs implies contracting or organisational productivity gains. Such gains must be based on a more effective management of search, negotiation and/or policing matters i.e. more effective control of factors of production. At the technical level such improvement will become apparent as improved labour and/or capital productivity. Using a standard production function analysis of the firm, an increase in factor productivities will increase production based scale economies (or reduce diseconomies) and hence influence firm size and market structure. An alternative way of conceptualising this link is to follow Morroni (1992) and suggest that organisational indivisibilities, arising from the management of transaction costs, produce economies of scale. Either way of conceptualising link (3) suggests the same conclusion: the management of efficient motivation can impact on the technical characteristics of the firm.

The characteristics of link (4) can be explained in one of two ways. First using a standard structure-conduct-performance approach, it can be suggested that different market structures can impact on firm objectives and hence performance. In the neo-Austrian writing cited above this possible impact of market structure is marginalised. Monopoly power is characteristically viewed as a return to entrepreneurship, a common feature of non-equilibrium Austrian analysis. A second possible explanation is suggested by Langlois and Robertson (1995). When firms are making investment decisions, i.e. decisions involving long-run focus, the variable costs of existing ventures will be compared with the total costs of new ventures. With significant sunk costs this can produce what might be called technological path dependence i.e. a bias towards existing ventures and technologies. This path dependence will generate inertia in the long-run focus of firms. Of course these two possible explanations of link (4) are connected. Technological path dependence is likely to be greater with a degree of monopoly power for existing firms.

Link (5), from efficient motivation to long-run focus, can be considered the organisational analogue of link (4). Given the sunk costs of setting up and managing contracting and motivation systems a bias towards the use of existing organisational methods and processes will be introduced. If strategic re-orientation involves fundamental

organisational change such re-orientation can be rationally blocked i.e. long-run strategies and focus will be constrained and channelled in particular directions. Mintzberg (1990) suggests that organisational rigidities, in our context path dependence, might exist because strategies are filtered through existing learning processes. Similarly, Nooteboom (2004) suggests that recognising the centrality of individual and collective cognition implies the existence of path dependencies. Alternatively the same result might follow from recognising that particular firm strategies reflect the orientation and interests of particular professional groups inside the firm (Dietrich, 1997). Strategic coordination is then required around the objectives of a particular professional grouping, if coordination failures are to be avoided. Firm strategic change can be understood as a change in coordination equilibrium; or, in management speak, organisational turnaround, a notoriously difficult process.

The nature of link (6) can be summarised under the shorthand of strategising or economising. Or as indicated above, the same idea can be captured under the distinction between firms acting as leaders or followers. For firms as institutional entities, leadership is not simply based on exploiting costless subjective knowledge, as traditional Austrian theory suggests. Instead if firms act as market leaders, investment in organisational assets is required to be able to develop new strategies or to manage the flexibilities required to effectively exploit market opportunities. Such assets are not necessary for follower firms (Langlois, 1986). In turn the required capabilities for effective innovation and flexibility will impact on organisational motivation systems. In short organisational motivation need not be simply an efficient response to exogenous technical characteristics but in addition can depend on long-run objectives. One way of conceptualising these impacts is to distinguish between long-run and short-run economising. With short-run economising firms respond to cost and revenue potential. For long-run economising cost and revenue potential are endogenous to firm strategies, with higher costs being required for the management of faster or more fundamental change. In terms of the above diagram, link (5) is based on the dominance of short-run economising whereas link (6) has long-run economising being dominant.

3. The firm and its historical context

The model suggested above indicates the potential complexity involved when analysing the firm in its concrete historical detail. In addition to identifying links (1)-(6) the complexities involved can be increased by combining the links, as is done by theorists who suggest that competence and transaction cost approaches are complements rather than substitutes (for

example, Foss, 1993; Langlois and Robertson, 1995). Arguably a full development of the complexities here would introduce significant conceptual diminishing returns, particularly given the objectives of the current discussion. In terms of economic investigation into the firm, and in particular economic investigation based on historical analysis, two strategies would appear to exist to manage the complexities involved. First, emphasis might be placed on identifying the key linkages in particular circumstances. But an implication here is that linkages relevant in different historical epochs need not be the same. Such a research strategy is empirically driven. The second approach is theoretically driven: a particular conceptual framework can be adopted, but non-core frameworks (linkages) can be recognised and introduced as constraints. But, once again, the nature of the constraints is likely to be contingent on historical circumstances.[1]

To simplify analysis of the complexities indicated by earlier discussion we argue that the two ways of thinking of the institutional nature of the firm in an historical context (i.e. as an economizer, follower, efficient motivator versus strategizer, leader, long run focus) are in fact the natural outcome of different interpretations that can be provided from the pioneering work of Alfred Chandler. In linking history with the economics of the firm, the author has received two essential interpretations: one by Williamson, which is centred on information coordination; and one by Lazonick and also Langlois, centred on productive coordination.

Today, this separation still holds since, in the recent literature, there are two different ways under which connections between history and the economics of the firm are conducted (Krafft, 2004). The first way is to use data collected by business historians to answer key questions that structure the economics of the firm. Here, a selection of economic models on the firm are used, with the objective being to provide a consistent interpretation of empirical data over the long run. The second way proceeds the other way around, since it involves the questioning of economic results on the firm by referring to puzzles and questions emerging from business history archives. Here, long run historical data is generally used as a way to increase the variety of economic models able to understand these questions and puzzles, rather than to select them a priori.

The existence of these two ways suggests the importance of theoretical pluralism. In line with this reasoning, it is also possible to show that the first way essentially concerns major neo-institutionalist theories of the firm, namely transaction costs approaches, agency theories, and property rights analyses. Alternatively, the second way often necessitates elaborating new theoretical perspectives, especially by fostering approaches focusing on

innovation and competences (Krafft, 2005). These theories of the firm provide complementary advances, and one is never superior to the other in absolute terms.

In addition, however, we also have to acknowledge that the empirical question which is addressed in this paper (i.e. historical reality) necessarily drives us to select one set of theories and reject another set of (time inferior) theories. In addition, the elaboration of an historically relevant economics of the firm is largely an interdisciplinary exercise, that is dependent on two conditions. First, taking history seriously into account should permit one to observe at the same time general results or regularities in the economics of the firm that are not determined contextually, but also critical differences and anomalies that, throughout history, make certain firms unique. Second, the confirmation of general conclusions obtained in the economics of the firm should not obscure or leave apart important results extracted from history. In the further development of the paper, we will see that this latter problem was present for a long time, though it tends to be less predominant in more recent contributions (see below recent evidence on the case General Motors/Fisher Body).

4. The historical relevance of the efficient motivator vision of the firm

One of the preliminary connections between history and economics of the firm started with the interpretation of Alfred Chandler by Oliver Williamson. The main object of Chandler in his book Visible Hand published in 1977 is to understand major characteristics of the industrial revolution that started at the end of the 19th century in the USA and subsequently shaped the modern industrial system. Chandler focuses on the reasons why the USA economy is so largely dominated by large companies for a major part of the 20th century. Starting from monographs of significant companies, the projected outcome is to draw major characteristics of long term viable companies over large panels of population. Chandler then generates two essential characteristics. The first characteristic is that companies which are engaged in massively capital intensive activities were generally confronted by a major problem of coordination. This problem was to articulate mass production with mass distribution. The second characteristic is that the problem of coordination of capital intensive activities could generally not be resolved automatically, relying on market forces alone. Within these capital intensive industries, vertical integration (backward or forward) could permit firms to avoid bottlenecks on the supply side and to generate new demand opportunities by the coordination of different yet complementary productive units. The argument is that managerial coordination superseded market coordination in industries characterized by high economies of

speed, i.e. in which production is sufficiently high and rapid to decrease unit costs. Investment in organizational capacity to manage vertically-related units emerged as a key to competitive success. As a matter of fact, companies which did not invest in organizational capacity exited, while companies which invested became the leaders of the industry.

Oliver Williamson, in Chapter 5 of his book The Economic Institutions of Capitalism published in 1985, uses different cases of vertical integration examined by Chandler as empirical evidence for his own theory based on transaction costs. Williamson argues that firms involve the minimization of transaction costs in specific situations, as discussed earlier. In this theoretical framework, the proposition is that the higher (respectively the lower) the transaction costs, the higher the chances to allocate resources within a firm (respectively within a market). In this framework, vertical integration represents a 'paradigmatic problem' (Williamson, 1985, p. 150) for the theory of the firm based on transaction costs. Williamson acknowledges that the empirical verifications of his own theory on the basis of the monographs done by Chandler are to some extent preliminary and rudimentary. However, the major outcome is that, in most cases, business history on vertical integration supports the theoretical proposition based on transaction cost, and discards alternative theoretical proposition. In conclusion he stresses that a predictive theory of vertical integration should essentially refer to asset specificity and opportunism.

Three comments result from this connection between history and the economics of the firm. The first comment is that Williamson derives from this connection the dominant explanation of why the US economy was characterized in the early 20th century by large, vertically integrated companies. Vertical integration appears as the optimal governance structure (minimizing transaction costs) since opportunism linked up with asset specificity is eliminated. The second comment is that Williamson argues from this connection that transaction costs theory of the firm is superior to any other theories of the firm developed so far. Former theories of the firm can essentially identify technical determinants explaining basic mechanisms of integration (mundane integration), but sophisticated forms of vertical integration (exotic integration) are explained by a transaction cost approach to the firm. The reason is that in addition to production costs integrated within traditional theories of the firm, Williamson focuses on the minimization of the sum between production and transaction costs. The third comment concerns economies of speed. This notion leads to erroneous conclusions for Williamson, since it leads to justifying vertical integration in industries in which there is no asset specificity. This notion introduced by Chandler does not differ from technical

complementarity argument advanced in traditional analysis of the theory of the firm. As such, transaction cost theory is not able to capture the large diversity of integration forms.

5. The historically relevance of the long run vision of the firm

In his book Business Organization and the Myth of the Economy published in 1991, Lazonick criticizes the interpretation provided by Williamson of the work of Chandler. For Lazonick, the Williamson-Chandler relationship is not a pure connection between theory (based on transaction costs) and facts (based on business history). Rather, this relation should be considered as the confrontation between two distinct theories on the specific issue of vertical integration. In this perspective, it appears that Williamson essentially proposes a theory of adaptive firms, i.e. a theory in which the behaviour of firms is constrained by the structure of the environment. On the other hand, Chandler suggests advances in the field of innovative firms on the basis of a theory in which the behaviour of firms shape the structure of the environment2. The relevance and importance of this distinction is clear from earlier discussion.

The argument is the following. First, the economies of speed characterized by Chandler cannot be assimilated into pure technical problems as described in Williamson's book. Second, the emergence of vertical integration analysed by Chandler cannot be assimilated to the reaction against opportunistic behaviours which is so central to Williamson. The four essential cases examined by Chandler (Duke, Kodak, Swift, and Singer) were concerned with the emergence of technological innovations, but the essential thing in each of these cases was that new forms of organization were to be elaborated in order to coordinate mass production with mass consumption. Vertical integration dominated because it was one of the possible solutions to this specific problem of coordination of productive activities. In fact, well before the technological innovations came out on the market, networks of production and distributions were in development. The implementation of a capital intensive programme was generally required for the company to maintain a regular flow of input for the effective utilisation of productive capacity, as well as a sufficient flow of output structuring the establishment of a market which formerly was nonexistent. When these conditions were not observed, the weight of sunk costs generally highly questioned the viability of the innovative firm.

For Lazonick (1991, p. 198-199), the essential problem lies in the transformation of high fixed costs into low unit costs. Chandler (1992) confirms that economies of speed

generally implied strengthening of productive capacity as well as the intensity of utilisation of this capacity. In addition, these increased fixed and sunk costs required a counterbalancing low unit costs in final production. The engagement of a triple investment, i.e. the elaboration of distribution networks, the elaboration of networks in commercialization and marketing, and the definition of a specific organization dedicated to coordinate the different phases of the process of production, was crucial to the coordination of mass production and mass market. This triple investment was the source of durable competitive advantages. In labour intensive industries, however, such triple investment was not observed, essentially because in that case investments were neither fixed nor irreversible. With this interpretation, the explanation of the dominance of vertical integration goes largely beyond the problem of opportunism linked with asset specificity[3]. Instead, emphasis is placed on the firm as a strategic leader. The management of cost structure involves shifting the organisational focus of the firm.

In 1992, Chandler provides a contribution in which he clarifies his position on the economics of the firm within history. To him, the firm is necessarily at the centre stage and its essential functions, i.e. first production, and second exchange, require an in-depth investigation. Neo-classical visions of the firm, but also agency and even transaction costs theories, are of no help solving this problem (Chandler, 1992, 85-86)4. Within neo-classical approaches the firm is exclusively considered as a technical unit dedicated to maximize a specific function, on the basis of a closed set of information. This clearly does not correspond to the concrete production problems that a firm has to face throughout business history. For reasons set out above, the firm in the 'real world' requires a coupling of technical and institutional factors. Within agency theory and transaction costs theory, the basic unit of analysis is not the firm but rather the transaction or any contractual arrangement. In fact, the empirical phenomenon he has collected and analysed are much more in coherence with an analysis in terms of evolution of competences. More specifically, Chandler advances that the alternative theory of the firm which is more in accordance with his work on business history is certainly the analysis in terms of dynamic competences the origins of which are in Marshall, Schumpeter, Penrose and the more recent developments in Teece, Dosi, Lazonick and Nelson (ibid., p. 86). As a matter of fact, Chandler criticizes thus some of the utilization of his own work, and especially the interpretation by Williamson which was however considered as one of the key mode of connection between history and the economics of the firm. Another important teaching is that the emerging collaboration between business history

and the theory of dynamic competences. Using the framework set out earlier, this suggests that the relevant coupling between institutional and technical factors is link (2) not link (1).

6. Recent evidence on the case General Motors/Fisher Body

GM/FB has certainly been one of the most extensively discussed historical case in the literature on vertical integration and the boundaries of the firm. For a long time, and for most of the commentators (Klein, Crawford and Alchian, 1978; Joskow, 1988; Shelanski and Klein, 1995; Crocker and Masten, 1996), this case was essentially considered as an example of hold up in the presence of asset specificity. In 1926 General Motors was led to acquire its supplier of automobile bodies, Fisher Body, because Fisher Body held up General Motors. It is generally claimed that Fisher Body did this by locating its body plants far away from the General Motors assembly plants and by adapting inefficient methods of production, thus increasing both the cost of producing bodies and the profits of Fisher Body under its cost-plus contract. This factual evidence justified the historical relevance of the institutional interpretation of the economics of the firm, based on the minimization of transaction costs (Tirole, 1988; Carlton and Perloff, 1994; Williamson, 1985; Ricketts, 1994).

In a recent issue of the Journal of Law and Economics (2000), however, new historically-based evidence is provided by key contributors in the domain of the economics of the firm (Klein; Coase; Freeland; Casadesus-Masanell and Spulber) that tend to suggest that the dominant explanation based on problems of coordination of information and transaction costs is not necessarily the correct one, and even that such an explanation has tended to neglect and obscure other major determinants of vertical integration.

Within these new developments, the dominant hypothesis H0 according to which "holdup is the main rationale for vertical integration" is only confirmed by Klein, who reaffirms his initial idea with Crawford and Alchian that the facts of the GM/FB case are fully consistent with the hold up description. To him, "the evidence unambiguously demonstrates that while the contract initially worked well, this contract broke down in 1925 when GM's demand for Fisher bodies increased dramatically. Fisher then refused to make the necessary capital investments required to produce bodies efficiently for GM, in particular refusing to build an important body plant close to GM production facility in Flint, Michigan. These contractual difficulties were the primary reason GM decide in 1926 to vertically integrate with Fisher Body" (Klein, 2000, 106). In reaffirming the dominant argument, Klein clearly supports a unilateral relationship between technical factors and efficient motivation that

identifies the conventional new institutional economics (termed link (1) in this paper). Basic technical characteristic, and especially asset specificity, along with bounded rationality and opportunism, produce motivation problems that can only be managed using the most efficient institution (here, vertical integration which guarantees transaction costs minimization).

Coase, alternatively, supports the idea that H0 is rejected by historical facts. To him, asset specificity is only a potential rationale for vertical integration, not sufficiently high enough in the present case to justify vertical integration. Three reasons motivate the argument. First, "What General Motors acquired in 1926 was the 40 percent of the shares of Fisher Body that it did not already own" (Coase, 2000, 15). Second, "Fisher Body did not locate its plants far away from the General Motors assembly plants" (ibid). Thirdly, "it is also most implausible, for many reasons, that the Fisher brothers would have used inefficient methods of production" (ibid). Consequently, there is no evidence that a holdup occurred. H0 is thus rejected, and an alternative hypothesis is suggested, H1 - "Asset specificity (with or without hold up) is normally handled satisfactorily with long term contracts without requiring vertical integration". In this case, technical factors appear thus as the point of departure of the reflection, but do not necessarily produce efficient motivation problems. Link (1) is not the ultimate interpretation, since technical factors can also generate long run aspects (Link (4)), such as the complete acquisition of a company which was already partially owned, or the location of plants which was part of a broader strategy implemented by the acquired company. In turn, these different long run elements may have impacted on the methods of production of this latter company which could have been be viewed as inefficient from outside, and especially from the acquirer point of view (Link (2)).

Freeland also rejects H0, and suggests that hold up never occurred. He advances a different interpretation of the case based on the role of human assets in determining the boundaries of the firm. To him, vertical integration was "caused primarily by the desire to acquire and retain the specialized knowledge and services of the Fisher brothers" (Freeland, 2000, 35). Further he also shows that if hold up occurred it is after integration, since because of their specialized knowledge, competences and skills the Fisher brothers could significantly shape the strategies of the integrated company. Thus, we can define H2, supported by Freeland, according to which "Access to specialized human capabilities favours vertical integration which may, in turn, produce holdup situations". There again, using the earlier framework, link (1) is not the selected interpretation. Rather, the implementation of a long run strategy in terms of how to recruit and retain human capital have had an impact on technical

factors (link (6)), and may also have degenerated into inefficient motivation outcomes if not adequately treated (link (6)).

Finally, Casadesus-Masanell and Spulber also reject H0, for the following reasons. First, the stress that "the historical record indicates close collaboration and trust between the companies, which contradicts supposed contract failures. The extensive participation of the Fisher brothers in GM management beginning in 1921 also indicates an absence of alleged opportunism by Fisher" (Casadesus-Masanell and Spulber, 2000, 68). Second, "the initial acquisition in 1919 also accompanied by substantial investment by GM in Fisher and a voting trust arrangement in which executives from the two companies had equal control over Fisher's board of directors, which contradict the need for property rights to exercise control" (ibid). Thirdly, "Fisher Body did not price opportunistically under its manufacturing contract. Many Fisher Body plants already were located next to GM plants before 1926" (ibid, 69). In addition, "the supposed transaction-specific investment in metal presses and dies is inconsistent with Fisher's manufacturing technology, which was wood based and labor intensive and therefore flexible and not transaction specific" (ibid). This leads authors to suggest an alternative hypothesis, more closely oriented towards the coordination of production in an innovative context. As a matter of fact, "the closed auto bodies made by Fisher represented quality and comfort and were a source of competitive advantage for GM in its competition with Ford. (…) Vertically integrating into auto body manufacturing allowed GM better to coordinate the management of inventories, production and purchasing given the transportation, communications, and data-processing costs existing at that time" (ibid). Thus H3 can thus be termed as "the coordination of production in an innovative context stimulates vertical integration". What is supported here is thus that technical factors, such as plant location and pricing issues, were embedded into a long run strategy of the acquired company (links (2) and (4)). Also, close collaboration and voting trust arrangements between the acquired and acquiring firms were shaped by, and also shaped themselves, the long run focus (links (5) and (6)).

7. From confirmation to confrontation: how history can generate new perspectives on the economics of the firm

New evidence on the case GM/FB is especially interesting to us in this paper since it shows the progression in the connection between history and the economics of the firm. Though empirically driven research sustained for a long time the predominance of vertical integration

by transaction costs economics, and to some extent confirmed the only body of analysis to be tested, it seems that things have now changed. As summarized in Table 1 below, and on the basis of a new series of observations on historical archives, H0 is confirmed by some authors but rejected by other authors.

Table 1: New evidence on the General Motors / Fisher Body case – Synthesis

Empirical implications of models	H0: holdup in presence of asset specificity explains vertical integration => NIE is confirmed => predominance of link (1)
Empirical observations	4 series of observations on historical archives: 1) Klein, 2) Coase, 3) Freeland, 4) Casadesus-Masanell and Spulber
Acceptance/Reject of hypotheses	1) H0 is confirmed 2) H0 is rejected 3) H0 is rejected 4) H0 is rejected
New formulations	1) no new formulation => NIE is confirmed => predominance of link (1) 2) H1: Asset specificity (with or without hold up) is normally handled satisfactorily with long term contracts without requiring vertical integration => Refinements into transaction costs economics => Investigations into links (2) and (4) 3) H2: Access to specialized human capabilities favours vertical integration which may, in turn, produce holdup situations. => Investigations into specialized competences and human capital => Investigations into links (2) and (6) 4) H3 can thus be termed as "the coordination of production in an innovative context stimulates vertical integration" => Investigations into innovation and the coordination of production => Investigations into links (2) and (4) => Investigations into links (5) and (6)

When H0 is rejected, then new propositions for a theoretical background on the economics of the firm are provided. Moreover, these new propositions tend to move progressively from a vision of the firm as an economizer or follower to the firm as a strategizer or leader. These new propositions stimulate the investigation of a wider spectrum of links to interpret historical facts (links (1) to (6)), which was however not implemented in earlier developments. For instance, in the interpretations of the work of Chandler, either link (1) or

link (4) (i.e. the Williamson version or the Lazonick version) could exclusively be analysed. This recognition of a wider theoretical spectrum leads to the economics of the firm having a greater historical relevance.

8. Conclusion

The aim of the paper was to draw the lines of an historically relevant economics of the firm, i.e. based on theoretical pluralism and empirical content. The first step was to closely insert this project within the current development of the economics of the firm which is essentially based on a dual vision of the firm, i.e. technical and institutional. Our contribution was to go beyond this traditional duality and provide an integrated perspective on the firm since, within history, technical and institutional aspects are largely intertwined. In this integrated perspective, we explicitly relate technical and institutional aspects of the firm and rediscover how the different theories of the firm can be incorporated and classified. Apart from the two dominant, and largely opposed, frameworks that relate, on the one hand, technical factors and efficient motivation institutional factors (link (1), such as New institutional economics, Agency theory and Property approaches) and, on the other hand, long run institutional factors and technical factors (link (4), such as Austrian, Post-Marshallian and Evolutionary analyses), another set of four different interpretations can also be derived (links (2), (3), (5) and (6)). Moreover we show that these different interpretations are crucial to the development of an historically relevant economics of the firm. In fact, at a more applied level, when we analyse how business history and economics of the firm have interacted in the past, we come to the conclusion that the initial attempts supported essentially either one or the other dominant interpretations. Evidence was given in this paper of the two opposite interpretations of the work of Chandler, first by Williamson in terms of efficient motivation, and second by Lazonick in terms of long run focus. However, in more recent combinations between economics of the firm and business history, such as the re-examination of the case General Motor/Fisher Body, though the earlier distinction still holds, a more complex set of interpretational linkages can be derived, mixing technical factors, efficient motivation institutional factors, and long run institutional factors. We consider these recent interdisciplinary developments as a significant progress in the insertion of the economics of the firm within history. Only robust confrontation between economic frameworks and historical archive can prevent important elements being neglected, and thus guarantee progress towards an historically relevant economics of the firm.

Notes

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[1] This potentially historical specificity of economic theory is consistent with the arguments developed by Hodgson (2001).

[2] See also Lazonick (2002, 2003).

[3] Again, according to Lazonick (1991, p. 242-243), "In referring to Chandler's material on Swift, Williamson demonstrated his unwillingness (or inability) to comprehend the Chandlerian emphasis on high throughput and economies of speed. Paraphrasing Chandler on the reasons for Swift's ultimate success, Williamson argued that "despite the opposition from the railroads and butchers, Swift's 'high quality and low prices' combined with 'careful scheduling' prevailed". Compare this statement with the quote from Chandler that I have just reproduced and emphasized. For Williamson, it was not worth mentioning the other factors - "high volume and the speed... of product flow" - that Chandler included in the same phrase as "careful scheduling" (the factor that Williamson did quote) as ways in which Swift attained the "high quality at low prices" that enabled him to win the market".

[4] See also Chandler *et al.* (1997, 1998, 2000).